We claim:

A method of producing an oxidation-protected electrode for a capacitive electrode structure, which comprises the following steps:

forming a metal oxide layer on a substrate;

applying an oxidation inhibiting layer, configured to be impervious to oxygen atoms, on the metal oxide layer; and

forming an electrode on the oxidation inhibiting layer.

- 2. The method according to claim 1, wherein the step of forming the metal oxide layer comprises thermally oxidizing a deposited metal layer.
- 3. The method according to claim 1, which comprises forming a metal barrier layer between the metal oxide layer and the substrate.
- 4. The method according to claim 1, wherein the applying step comprises forming the oxidation inhibiting layer by chemical vapor phase deposition.

5. A capacitive electrode structure, comprising:

a semiconductor substrate;

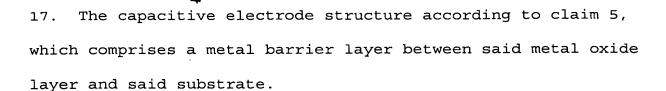


a metal oxide layer formed on said semiconductor substrate; an oxidation inhibiting layer on said metal oxide layer; and

an electrode on said oxidation inhibiting layer.

- 6. The capacitive electrode structure according to claim 5, wherein said oxidation inhibiting layer is electrically conductive.
- 7. The capacitive electrode structure according to claim 6, wherein said electrode is formed by a metal layer on said electrically conductive oxidation inhibiting layer.
- 8. The capacitive electrode structure according to claim 6, wherein said electrically conductive oxidation inhibiting layer is composed of tungsten nitride.
- 9. The capacitive electrode structure according to claim 6, wherein said electrically conductive oxidation inhibiting layer is composed of titanium nitride.
- 10. The capacitive electrode structure according to claim 5, wherein said oxidation inhibiting layer is not electrically conductive and said electrode is formed by a polysilicon layer on said oxidation inhibiting layer.

- 11. The capacitive electrode structure according to claim 10, wherein said electrically non-conductive oxidation inhibiting layer is composed of a material having a high dielectric constant.
- 12. The capacitive electrode structure according to claim 10, wherein said electrically non-conductive oxidation inhibiting layer is composed of silicon nitride.
- 13. The capacitive electrode structure according to claim 5, wherein said metal oxide layer is composed of an oxygen-rich material having a high dielectric constant.
- 14. The capacitive electrode structure according to claim 13, wherein said metal oxide layer is composed of titanium dioxide.
- 15. The capacitive electrode structure according to claim 13, wherein said metal oxide layer is composed of tantalum pentoxide.
- 16. The capacitive electrode structure according to claim 13, wherein said metal oxide layer is composed of aluminum oxide.



- 18. The capacitive electrode structure according to claim 17, wherein said metal barrier layer is composed of silicon dioxide.
- 19. The capacitive electrode structure according to claim 17, wherein said metal barrier layer is composed of silicon nitride.
- 20. The capacitive electrode structure according to claim 5, wherein said oxidation inhibiting layer comprises a nitrogenrich compound for preventing a diffusion of oxygen atoms through said oxidation inhibiting layer.